

ABSTRACT

The invention consists of a test device for simultaneous measurement of multiple analytes in one sample where the liquid sample is applied to a matrix at the central area of the device which is connected to multiple arms, and each of the arms contains specific reagents in dry form for measurement of a particular analyte. The sample travels from the center uniformly and quickly to the reagent site on each arm and produces a measurable signal that may be a change in electrical charge or current, fluorescence, or, preferably, color. A color change can be detected visually or measured quantitatively using a suitable reflectance meter. The sample may be a small amount of whole blood obtained e.g., from a finger puncture or it may be urine, saliva, any other bodily fluid, environmental water, or any other fluid upon which rapid, simultaneous testing of levels of different components is desired. According to the invention, a disease specific panel for kidney, liver, heart, lipid disorders or for early detection of dysfunction of general health can be performed at or near the patients' site and can provide instant results. Similarly, rapid simultaneous testing of water samples is desirable under many circumstances.